DOCUMENT RESUME

ED 083 046 SE 016 931

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TITLE	A Report on Elementary School Curriculum Mathematics Component, Project PRIMES: Progress Research in Meeting Elementary Standards.
INSTITUTION	Columbus Public Schools, Ohio. Dept. of Evaluation, Research, and Planning.
SPONS AGENCY	Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C.
PUB DATE	Sep 73
NOTE	15p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Curriculum; *Curriculum Evaluation; *Elementary School Mathematics; *Evaluation; *Mathematics Education; Program Evaluation
IDENTIFIERS	Research Reports

ABSTRACT

Project PRIMES (Progress Research in Meeting Elementary Standards) is a project charged with assisting Columbus (Ohio) public and parochial schools in an on-sight evaluation of mandated areas. This report describes the project's implementation in seven public and two parochial elementary schools to evaluate their mathematics curriculum. Project staffers assist the principal and a group of teachers and parents from each school to design an evaluation instrument which will identify strengths and weaknesses in their program. The instrument used during this study is divided into nine sections: goals and objectivies, curriculum, equipment, faculty, instruction, facilities, evaluation, administration, and in-service activity. The evaluation of each area is based on the school staff's "yes-no" responses to questions related to each area; a "yes" response denotes a positive aspects of the mathematics program. From the data collected at these schools, the staffs feel the areas of curriculum and equipment are strongest and that goals and objectives, evaluation, and in-service training are weakest. Specific recommendations are given for school and/or system action to strengthen the weak areas. Additional types of assistance needed from project staffers in aiding the schools to make such evaluations are also recommended. (JP)

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DEPARTMENT OF EVALUATION, RESEARCH AND PLANNING
DIVISION OF SPECIAL SERVICES
COLUMBUS, OHIO

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A Report On

Elementary School Curriculum Mathematics Component Project PRIMES: Progress Research in Meeting Elementary Standards ESEA, Title III 1972-1973

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September, 1973

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SECTION I

SPECIFICATIONS OF THE PROJECT

A. Statement of Purpose

1. Goals

Project PRIMES is a Title III ESEA funded project charged with assisting Columbus (Ohio) public and parochial elementary schools in an on-sight evaluation of mandated areas. These areas are mandated under requirements established in the Minimum Standards for Ohio Elementary Schools, 1970.

The project is designed to increase the knowledge of evaluation background and techniques at the local building level starting with the 1972-73 school year.

This will be accomplished by using a Field Service Unit. This unit is made up of Project PRIMES personnel who will work directly with teachers. These teachers will use evaluation instruments designed especially for the various mandated areas. At the project's termination date, the local staff will be skilled in the evaluation process and will be able to carry out a self-evaluation at the building level.

B. Procedures

1. Target Audience

The target audience for Project PRIMES is the principal, teachers, and parents (with students optional) at the local building level. The primary unit in which these personnel work is titled the Building Evaluation Committee. This committee is made up of the principal, at

least two teachers and two parents. The people on the Building Evaluation Committee in turn work with the other teachers and parents of the educational community.

2. Services Provided

Project PRIMES staff members worked directly with all principals in the Columbus elementary schools during the 1972-73 school year. Each principal then decided the amount of direct services he wished to receive from PRIMES. These direct services are available to a staff in three approach forms. They are:

Approach I

a. A PRIMES staff member briefs the principal on the various aspects of the project.

b. A PRIMES staff member briefs the Building Evaluation Committee and reviews the evaluation instrument with them.

c. A PRIMES staff member briefs the entire staff.

d. A work session(s) involving the entire staff is completed using the evaluation instrument.

e. A consensus of the instrument is completed.

f. The Building Evaluation Committee meets to form one final consensus that represents the entire educational community.

Approach II

a. Same as Approach I

b. Same as Approach I

c. Same as Approach I

(The Building Evaluation Committee leads the staff and parents through the work and consensus session.)

d. A PRIMES member returns to work with the Building Evaluation Committee to arrive at a final consensus.

Approach III

a. Same as Approach I

(The principal and Building Evaluation Committee lead the teachers and parents through the evaluation process.)

During the 1972-73 school year, seven Columbus Public Schools and two Diocesan Schools chose to evaluate the math program*. These schools were:

Columbus Public Schools	Approach Selected	Number of People on Building Evaluation Committee
Barnett	II	5
Brentnell	I	4
Cedarwood	I	5
E. Columbus	I	5
E. Linden	III	5
Medary	III	5
Northridge	I	10
Seven Schools	four I's	16 parents
	one II's	16 teachers
	two III's	7 principals
		39 total

*The Diocesan Schools, St. Thomas and St. Catherine, chose to develop their own instrument. Their results are not reflected in this report.

At the conclusion of the evaluation process each math school received a follow-up report that lists specific points of strength and weakness within their math program. Possible follow-up activities were then suggested to meet the individual programs.

C. Instrumentation

The math instrument used during the first year of the project is divided into nine sections:

goals and objectives
curriculum
equipment
faculty
instruction
facilities
evaluation
administration
in-service

The questions in these sections were all "yes - no" responses.

The committee that developed this instrument planned for it to be a positively accented instrument. That is, a yes answer denotes a positive aspect of the math program. Ideally, a school should strive for a "yes" instrument.

Being so established, the instrument allows the results to be presented in a clear cut manner when those results represent a strong positive or negative response. Difficulty in analysis develops with questions that are split among staff members or among schools.* In these cases, individual analysis becomes imperative.

*One case in particular is the question of whether the math program is continuous. Most fourth through sixth grade teachers saw the program as continuous where as second and third grade teachers responded negatively. This difference appears to come from the fact that the second grade text is not from the same company as the higher grades. Yet, because of the instrument's make up and the fact that a consensus was taken, the results show that the program is continuous even with this major discrepancy.

SECTION II

RESULTS

A. Positive Results

From the seven schools that used the math instrument, these specific statements were chosen by the staffs as positively reflecting their math program.

TABLE I

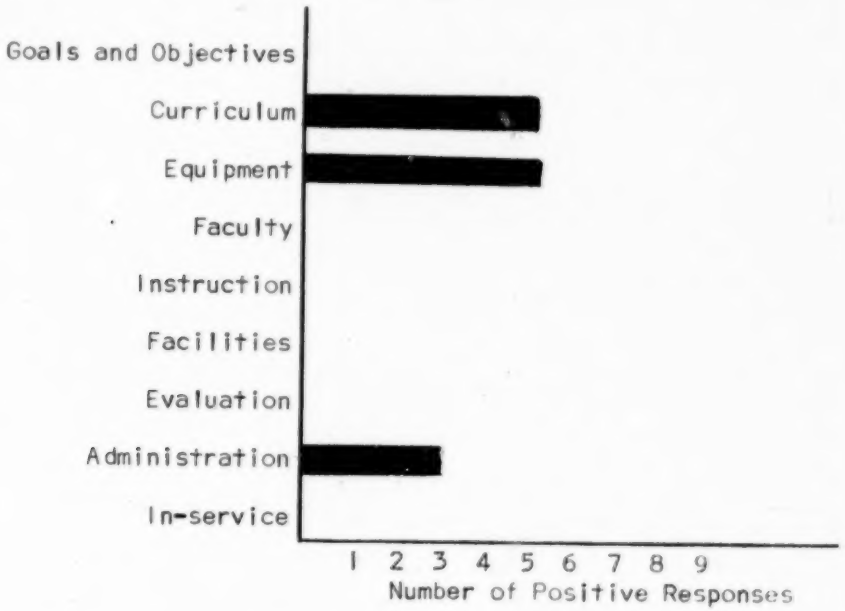
POSITIVE RESPONSES

1. The curriculum is based upon modern psychological principles of learning and modern mathematical concepts.
2. The curriculum is relevant to student and community needs.
3. The curriculum is flexible with provision for change or revision.
4. The curriculum is organized as a continuous program to facilitate a logical sequence of learning.
5. The curriculum provides for integrating and correlating mathematical concepts and skills with other subject areas.
6. The textbook is modern, well-written, and oriented toward the attainment of the stated objectives of the program.
7. There are sufficient textbooks available.
8. There is a sufficient number of teacher editions of the textbook available.
9. The aids and supplementary materials available are compatible with the present curriculum.
10. The aids and supplementary materials are used by the students and teachers.
11. The administrators cooperate in providing the necessary administrative procedures to facilitate the attainment of the goals and objectives of the mathematics program.
12. There is administrative guidance provided to implement change and improve instruction.

The preceeding positive statements were selected from these areas:

TABLE II

THE AREAS OF AND NUMBER OF POSITIVE



As defined in the instrument, the areas of "curriculum, equipment, and administration" were chosen as the areas with positive aspects.

An interesting point in regards to these positive statements is the fact that all seven schools felt the math program is psychologically sound, relevant, flexible, continuous, and can be integrated well with other curriculum areas. Yet these same staffs reported they did not have a satisfactory set of math goals or objectives for their building.

B. Negative Results

From the staff consensus taken at each building, the majority of schools responded negatively to these questions.

TABLE III

NEGATIVE RESPONSES

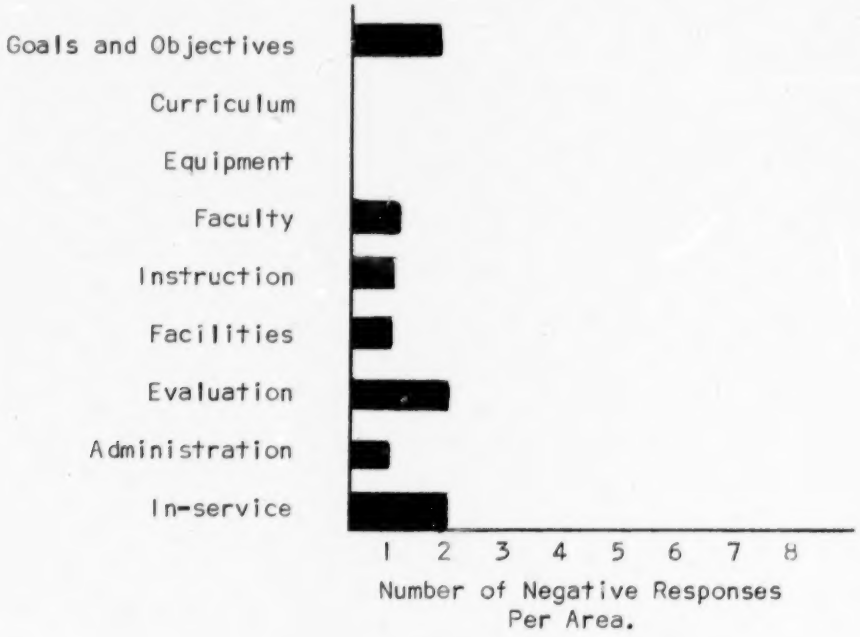
1. The school has a satisfactory set of goals for the mathematics program that contribute to the attainment of the general education goals of the school.
2. The school had a satisfactory set of mathematics objectives, behaviorally stated, which are compatible with the mathematics goals.
3. Teachers are provided released time to participate in the in-service education programs.
4. The In-Service Education Program is a planned, on-going program.
5. Teachers with special training in mathematics are available to work with enrichment and reinforcement programs in mathematics.
6. The methods of student grouping are such that they help attain the objectives of the mathematics program.
7. There are sufficient funds allocated to the mathematics program.
8. There is an adequate procedure for evaluating the mathematics program in terms of the stated objectives and goals.
9. The evaluation procedure involves parents, teachers, administrators and students.
10. A good library of professional publications and books related to mathematics instruction is available.

The most unanimously agreed upon negative point was the lack of goals and objectives. Considering that the curriculum traditionally evolves from a program's goals and objectives, this point may be significant in the development of math programs at the local level.

In the "evaluation" section, one-half of the questions were answered negatively by all staff members. Perhaps here is a part of the math program that demands clear goals and objectives in order to be soundly developed.

TABLE IV

THE AREAS OF AND NUMBER OF NEGATIVE RESPONSES



The distribution of negative responses is spread over a greater field than the positive responses. The "goals and objectives" section leads the way with 100% of the questions being responded to negatively.

The pattern that appears from the consensus of the seven schools is one where positive responses are strongly centered in a few specific areas. The negative responses are dispersed throughout the various areas evaluated in the instrument.

SECTION III

SUMMARY AND RECOMMENDATIONS

A. Summary

1. Conclusions

From the data collected at the seven schools these conclusions can be drawn.

a. The staffs feel that the areas of "curriculum and equipment" in the math program are the strongest.

b. The staffs feel that the weakest areas of the math program are the "goals and objectives, evaluation, and in-service training.

c. The positive feelings tend to be centered within a few distinct areas whereas the negative feelings tend to be more widely dispersed throughout the program.

2. Perceptions

Because of one's position as an evaluator working with the various staffs, it is impossible not to make perceptions based on experiences that are not necessarily reflected in the data collected. Below is a list of such perceptions made in reference to the elementary math program. These perceptions are subjective and are not meant to replace the data collected. They are, instead, intended to augment what was found in the formal evaluation and to provide insight for those charged with decision making in regards to the elementary math program.

a. Building Level

1. There is little analysis of the local community needs in regards to the school's math program. If these needs were established, a school could much better develop goals and objectives that would be relevant to the community.
2. Many staff members do not know how to effectively use the materials that are available in most schools.
3. Many staff members do not know the materials that are available to them.

b. System Level

1. The communication on the system level needs to be improved. Teachers are not getting system wide math information the way they should be.
2. The lack of a continuous text series is hurting the continuity of the primary level math program.

c. Project Level

1. Staffs members tend to be distrustful of evaluation per se. The "What good will it do?" syndrome is their immediate response.
2. Some staff members question the worth of the information provided. Many teachers do not see themselves as agents of change.

d. State Level

1. The state standards seem vague and rather meaningless to staff members. The standards appear more threatening to a teacher than they do as serving as guidelines for improvement.

B. Recommendations

1. Building Level

a. Each school should establish goals and objectives that meet the needs of the community they serve.

b. Staff members need to improve their diagnostic techniques in evaluating student mathematical skills.

c. Better in-school communications is needed. Teachers should spend time discussing common problems and solutions to problems dealing with the math program. This should be on the inter- and intra-grade levels.

d. Inter staff in-service is needed for training in how to use math materials already in the building.

2. System Level

a. The systems program should provide assistance to schools in developing their own goals and objectives for the math program.

b. The system program should provide assistance in evaluating the math program at grade level.

c. The system program should improve communication between the system and building levels. This is particulary true with materials available.

3. Project Level

   a. The project needs to develop an instrument that provides a wider range of choices in the answer scale to allow for degrees of variation within the response.

   b. The project should assist in the curriculum areas immediately after the evaluation to those schools requesting help. A follow-up plan to help staffs plan their activities is needed.

4. State Level

   a. The feasibility of incorporating Level II Standard becomes too unrealistic for most schools. A revision is needed at Level II to make the standards more attainable. If this is not done, many schools may simply ignore the standards as too impossible to reach.